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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/531,539	04/15/2005	Berthold Koch	112857-444	1416
21832	7590	09/07/2006	EXAMINER	
MCCARTER & ENGLISH LLP			KIM, SUN U	
CITYPLACE I			ART UNIT	
185 ASYLUM STREET			PAPER NUMBER	
HARTFORD, CT 06103			1723	

DATE MAILED: 09/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/531,539

Applicant(s)

KOCH ET AL.

Examiner

John Kim

Art Unit

1723

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 15 April 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 11-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 11-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 April 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>4/15/05</u> .   | 6) <input type="checkbox"/> Other: _____                                    |

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1. Claims 11 and 14-15 are objected to because of the following informalities: “.alpha.’ in claims 11 and 14 should be written in Greek letter, “α”. “a” between “distance” and “between” on line 2 of claim 15 should be corrected to “(a)”. Appropriate correction is required.

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 18-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). In the present instance, claim 18 recites the broad recitation “more than 90%”, and the claim also recites “more specifically more than 95% and advantageously more than 98%” which is the narrower statement of the range/limitation. Claim 19 recites the broad recitation “for permeate flow”, and the claim also recites “more specifically for circulation gas” which is the narrower statement of the range/limitation.

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 11-20 are rejected under 35 U.S.C. 102(b) as being anticipated by McLain (US Pat. No. 3,422,008).

Regarding claim 11, McLain teaches a hollow fiber fluid separation module comprising an inlet (9), an outlet (11), a discharge port (12) and an access port (9'), a module axis and a plurality of hollow fibers (1); each of the fibers extending from the inlet (9) to the outlet (11) and comprising an interior communicating with the inlet (9) at one end of each hollow fiber and with the outlet (11) at the other end of each hollow fiber, with the hollow fibers being wound in multiple layers to form a hollow cylindrical coil (see figure 3), each layer being defined on its inner side by an imaginary cylinder and having a number of hollow fibers helically wound on the cylinder (2) with a certain helix angle, the fibers being in a clearance relationship with each other and equally spaced on the cylinder (2), with one layer differing from a neighboring layer by the fact that all the fibers of the one layer are inclined at the wind angle plus certain helix angle whereas all the fibers of the neighboring layer are at the wind angle minus certain helix angle and each fiber being wrapped around 360 degrees at least once around the associated cylinder and being laid down to be frictionally held to the crosswise disposed fibers lying underneath and inherently not to have their inner cross section noticeably restricted (see figures 3, 9; col. 4, lines 53-59; col. 5, lines 35-72; col. 9, lines 22-46). McLain teaches that an additional inlet (9') is provide to pass a fluid to a fiber bundle to sweep away fluid which has permeated through fiber walls (see figure 9; col. 9, lines 36-46).

Regarding claim 12, McLain teaches that the first, lowermost layer (1) is located on a tube (2) that forms the imaginary cylinder of the layer (see Fig. 5).

Regarding claim 13, McLain teaches axial bores i.e. holes in tube (2) (see figure 9).

Regarding claim 14, McLain teaches that the wind angle is at least 30 degrees (see col. 5, lines 63-66).

Regarding claim 15, McLain discloses that the distance between two hollow fibers of one layer (1') ranges between onefold and tenfold the inner radius of hollow fibers (see Fig. 3).

Regarding claims 16-17, all of the fibers of McLain has same length and built according to the same design principle (see Fig. 3-5).

Regarding claim 18, the free inner cross section of hollow fibers of McLain at the intersections is inherently more than 90% to allow fluid through the fibers.

Regarding claim 19, McLain discloses that the outermost layer of the winding is enclosed by a perforated cylinder which inherently provides access for permeate flow (see col. 7, lines 13-19).

Regarding claim 20, McLain discloses sectioned planes of perform module (2) (see Figs. 10-11; col. 9, lines 52-72).


6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. References cited in PTO-892 teaches various hollow fiber membrane modules.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Kim whose telephone number is 571-272-1142. The examiner can normally be reached on Monday-Friday 7 a.m. - 3:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Kim can be reached on 571-272-1142. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
**John Kim**  
**Primary Examiner**  
**Art Unit 1723**

JK  
August 31, 2006